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METHODS of HARVESTING HAY and SILAGE CROPS

1959 and Comparisons

Growth Through Agricultural Progress

Farm Economics Division
Economic Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

METHODS OF HARVESTING HAY AND SILAGE CROPS 1959 AND COMPARISONS

By

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INTRODUCTION

This report contains information on the methods used in the 48 States in harvesting hay, corn silage, and sorghum silage. Proportions of each crop harvested by major methods are presented for 1959 and for another recent year. Data for the earlier years are from publications listed in footnotes to the tables. The estimates for 1959 are projections based on the published data for previous years and on subsequent changes in numbers of appropriate machines on farms. 1/

Similar estimates of harvesting methods used in 1959 were developed for wheat, buckwheat, rye, oats, barley, soybeans, flaxseed, sorghum grain, and peanuts. These estimates are available as working data. 2/ They were excluded from this publication because a more detailed study of methods of harvesting most of these crops in 1960 is in process.

The acreages of crops for 1959 shown in the tables in this publication are preliminary estimates from the report "Crop Production," issued by the Crop Reporting Board in December 1959. 3/ In some instances, the regional and national figures on harvesting methods for the earlier years differ from those originally published. These differences, however, are not great.

1/ Strickler, P.E., and Hines, C.A. Numbers of Selected Machines and Equipment on Farms With Related Data. U.S. Dept. Agr. Statis. Bul. 258, 30 pp., illus. 1960.

2/ Compilations of these data are available from the Farm Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington 25, D. C.

3/ U.S. Agr. Mktg. Serv. Crop Reporting Board. Crop Production, 1959 Annual Summary. Acreage, Yield, Production, by States. U.S. Agr. Mktg. Serv. CrPr 2-1 (59), 109 pp., illus. Dec. 1959.

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HAY

There were more than 600,000 pickup balers on farms in 1959. It is estimated that they were used to harvest 82 percent of the 113 million tons of hay harvested in that year (table 1). Baling was the chief method of putting up hay in 1954 also, when 73 percent of the crop was harvested by this method. The increase in baling consisted of further conversion from the once dominant practice of handling and storing hay in long, loose form. The proportion of the crop harvested as loose chopped hay remained at 7 percent in 1959, the same as in 1954.

In 1959, the 69.4 million acres of all kinds of hay harvested produced 112.8 million tons. The yield of 1.62 tons per acre was 5 percent above the average for the 10 years from 1948 to 1957.

CORN SILAGE

In 1959, the 7 million acres of corn harvested for silage yielded 8.5 tons per acre. On 94 percent of this acreage, the corn was field chopped with field forage harvesters. This compares with 89 percent of the acreage harvested by this method in 1956 (table 2).

The rest of the corn used for silage was chopped with stationary cutters at the silos. In both 1956 and 1959, nearly all of this corn was harvested with corn or row-crop binders. In only three States was harvesting done to any extent by hand or other methods. These methods were used in 1956 on only 1 percent of the United States acreage in corn for silage; the proportion dropped to one-half of 1 percent in 1959.

SORGHUM SILAGE

In 1959, sorghums were grown for silage on 1.2 million acres. Nearly all of the crop was field chopped with field forage harvesters (table 3). In 1955, the crop from 94 percent of the acreage was harvested in this way. In both years, the rest of the crop was chopped at the silos with stationary cutters after being harvested in the field with binders or by other methods.

In 1955, 1.7 million acres of sorghums were cut for silage. The 1.2 million acres cut in 1959 was the smallest acreage since 1953. The 1959 yield averaged 8.75 tons of silage per acre, only slightly below the 1958 record. Total production in 1959 was 10.5 million tons, 13 percent below 1958 but 49 percent above the 10-year average for the years 1947 to 1958.

Table 1.- Hay: Percentage harvested by specified methods, by regions and States, 1954 and 1959

Region and State	1954 1/				1959			
	Production	Baled	Loose		Production	Baled	Loose	
			Long	Chopped			Long	Chopped
	1,000 tons	Percent	Percent	Percent	1,000 tons	Percent	Percent	Percent
48 States	107,834	73	20	7	112,764	82	11	7
Northeast	13,185	81	16	3	13,541	91	6	3
New England	3,060	75	22	3	2,839	95	2	3
New York	5,547	82	15	3	5,546	91	6	3
New Jersey	438	93	5	2	560	97	1	2
Pennsylvania	3,450	82	16	2	3,816	89	9	2
Delaware	83	92	7	1	78	97	2	1
Maryland	607	83	16	1	702	88	11	1
Lake States	18,289	64	21	15	19,958	73	10	17
Michigan	3,654	72	15	13	3,801	85	2	13
Wisconsin	7,827	55	19	26	9,754	64	10	26
Minnesota	6,808	70	26	4	6,403	80	16	4
Corn Belt	21,887	85	8	7	22,155	90	3	7
Ohio	4,068	82	9	9	3,622	86	5	9
Indiana	2,773	87	6	7	2,224	93	2/	7
Illinois	4,711	89	6	5	4,508	95	2/	5
Iowa	6,903	83	8	9	7,699	87	4	9
Missouri	3,432	83	14	3	4,102	91	6	3
Northern Plains	18,769	58	38	4	16,433	66	32	2
North Dakota	4,022	50	49	1	3,180	58	41	1
South Dakota	4,951	53	46	1	3,414	60	39	1
Nebraska	6,399	53	39	8	6,282	60	32	8
Kansas	3,397	82	11	7	3,557	90	3	7
Appalachian	6,841	74	25	1	8,288	84	15	1
Virginia	1,475	82	17	1	1,783	85	14	1
West Virginia	984	48	51	1	933	60	39	1
North Carolina	1,068	70	29	1	1,225	90	9	1
Kentucky	1,943	86	13	1	2,369	95	4	1
Tennessee	1,371	70	29	1	1,978	80	19	1

See footnotes at end of table.

--Continued

Table 1.- Hay: Percentage harvested by specified methods, by regions and States, 1954 and 1959 --Continued

Region and State	1954 1/				1959			
	Production	Baled	Loose		Production	Baled	Loose	
			Long	Chopped			Long	Chopped
	1,000 tons	Percent	Percent	Percent	1,000 tons	Percent	Percent	Percent
Southeast	1,777	80	19	1	2,044	96	3	1
South Carolina	436	75	24	1	497	92	7	1
Georgia	581	79	20	1	574	96	3	1
Florida	138	88	11	1	203	98	1	1
Alabama	622	82	17	1	770	97	2	1
Delta States	1,996	82	17	1	2,742	96	3	1
Mississippi	768	83	16	1	1,159	97	2	1
Arkansas	775	78	20	2	1,011	95	3	2
Louisiana	453	84	15	1	572	94	5	1
Southern Plains	3,307	90	6	4	4,259	91	5	4
Oklahoma	1,609	92	5	3	1,919	93	4	3
Texas	1,698	89	6	5	2,340	90	5	5
Mountain	11,922	66	27	7	13,237	77	16	7
Montana	2,921	57	40	3	3,009	70	27	3
Idaho	2,815	68	21	11	2,911	84	5	11
Wyoming	1,117	57	40	3	1,394	70	27	3
Colorado	2,087	59	30	11	2,471	68	21	11
New Mexico	523	90	5	5	656	92	3	5
Arizona	704	90	5	5	976	94	1	5
Utah	1,227	75	16	9	1,348	81	10	9
Nevada	528	67	24	9	472	75	16	9
Pacific	9,861	80	10	10	10,107	84	5	11
Washington	1,554	72	20	8	1,524	80	12	8
Oregon	1,812	64	25	11	1,827	75	14	11
California	6,495	86	3	11	6,756	88	1	11

1/ From Strickler, P.E., and Phillips, H.C. Harvesting Hay and Straw. U.S. Agr. Res. Serv. ARS 43-27, 19 pp. 1956. This publication contains comparable estimates for 1951 and for other years.
2/ Less than 0.5 percent.

Table 2.- Corn silage: Percentage harvested by specified methods, by regions and States, 1956 and 1959

Region and State	1956				1959			
	Acreage harvested	Field forage harvester 1/	Corn binder 1/	Hand and other methods 1/	Acreage harvested	Field forage harvester	Corn binder	Hand and other methods
	1,000 acres	Percent	Percent	Percent	1,000 acres	Percent	Percent	Percent
48 States	6,538	89	10	1	6,982	94	6	2/
Northeast	927	77	20	3	920	88	12	2/
New England	139	76	20	4	153	87	13	2/
New York	443	78	20	2	412	89	11	2/
New Jersey	43	90	8	2	45	96	4	2/
Pennsylvania	260	72	25	3	246	86	14	2/
Delaware	5	85	11	4	6	86	14	2/
Maryland	37	86	10	4	58	93	7	2/
Lake States	1,914	87	13	2/	2,165	93	7	2/
Michigan	283	89	9	2	309	96	4	2/
Wisconsin	989	87	13	2/	901	92	8	2/
Minnesota	642	86	14	2/	955	92	8	2/
Corn Belt	907	93	5	2	917	98	2	2/
Ohio	130	88	10	2	143	95	5	2/
Indiana	104	92	6	2	136	98	2	2/
Illinois	183	95	4	1	221	98	2	2/
Iowa	372	95	3	2	277	99	1	2/
Missouri	118	92	6	2	140	96	4	2/
Northern Plains	1,928	95	5	2/	2,040	98	2	2/
North Dakota	571	96	4	2/	739	98	2	2/
South Dakota	341	95	4	1	982	98	2	2/
Nebraska	558	96	4	2/	142	98	2	2/
Kansas	458	92	8	2/	177	93	7	2/
Appalachian	219	75	17	8	275	84	15	1
Virginia	76	78	17	5	124	87	13	2/
West Virginia	17	70	25	5	17	75	25	2/
North Carolina	53	70	18	12	56	80	14	6
Kentucky	42	80	10	10	38	89	11	2/
Tennessee	31	75	20	5	40	81	19	2/

See footnotes at end of table.

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Table 2.- Corn silage: Percentage harvested by specified methods, by regions and States, 1956 and 1959 --Continued

Region and State	1956				1959			
	Acreage harvested	Field forage harvester 1/	Corn binder 1/	Hand and other methods 1/	Acreage harvested	Field forage harvester	Corn binder	Hand and other methods
	1,000 acres	Percent	Percent	Percent	1,000 acres	Percent	Percent	Percent
Southeast	60	82	13	5	99	92	7	1
South Carolina	20	80	15	5	18	88	8	4
Georgia	16	85	13	2	32	94	6	2/
Florida	8	85	10	5	29	91	9	2/
Alabama	16	80	10	10	20	97	3	2/
Delta States	39	85	9	6	38	91	9	2/
Mississippi	22	90	6	4	15	96	4	2/
Arkansas	11	75	14	11	13	83	17	2/
Louisiana	6	85	8	7	10	95	5	2/
Southern Plains	79	96	1	3	61	99	1	2/
Oklahoma	26	95	3	2	17	98	2	2/
Texas	53	96	1	3	44	99	1	2/
Mountain	357	95	3	2	353	97	3	2/
Montana	57	96	3	1	68	97	3	2/
Idaho	43	95	3	2	53	97	3	2/
Wyoming	26	91	8	1	25	93	7	2/
Colorado	171	96	3	1	143	98	2	2/
New Mexico	12	95	2	3	12	99	1	2/
Arizona	8	96	2	2	7	98	2	2/
Utah	37	94	3	3	41	98	2	2/
Nevada	3	95	2	3	4	95	2	3
Pacific	108	95	4	1	114	97	3	2/
Washington	17	92	4	4	25	98	2	2/
Oregon	18	90	5	5	22	96	4	2/
California	73	97	3	2/	67	97	3	2/

1/ From Strickler, P.E., Ahalt, J.D., and McCauley, R.S. Harvesting the 1956 Corn Crop. U.S. Agr. Res. Serv. ARS 43-91, 20 pp. 1959. This publication contains comparable estimates for 1955 and for other years.

2/ Less than 0.5 percent.

Table 3.- Sorghum silage: Percentage harvested by specified methods, by selected regions and States, 1955 and 1959

Region and State	1955			1959		
	Acreage harvested	Field forage harvester 1/	Stationary cutter 1/	Acreage harvested	Field forage harvester	Stationary cutter
	1,000 acres	Percent	Percent	1,000 acres	Percent	Percent
Total or average	1,719	94	6	1,205	100	2/
Corn Belt	134	93	7	100	100	2/
Missouri	110	92	8	60	100	2/
Others	24	97	3	40	100	2/
Northern Plains	928	95	5	577	100	2/
Nebraska	78	96	4	43	100	2/
Kansas	818	95	5	481	100	2/
Others	32	95	5	53	100	2/
Appalachian	49	74	26	59	94	6
Southeast	37	76	24	51	100	2/
Delta States	89	86	14	68	100	2/
Southern Plains	394	96	4	273	100	2/
Oklahoma	158	95	5	97	100	2/
Texas	236	97	3	176	100	2/
Mountain	78	96	4	69	100	2/
Arizona	29	97	3	26	100	2/
Others	49	95	5	43	100	2/
California	10	97	3	8	100	2/

1/ From Brodell, A.P., and Phillips, H.C. Silage From 1955 Crops - Harvesting, Storing, Preserving. U.S. Dept. Agr. Statis. Bul. 217, 22 pp. 1957. This publication contains comparable estimates for 1951 and other years.

2/ Less than 0.5 percent.